

SAFETY DATA SHEETS

This SDS packet was issued with item:

075038948

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

079395905 079395910 273005853

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

075038930



Material Safety Data Sheet

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PRODUCT NAME: 3M™ ESPE™ VITREBOND PLUS LINER A/B KIT
MANUFACTURER: 3M
DIVISION: 3M ESPE Dental Products

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA

Telephone: 1-888-3M HELPS (1-888-364-3577)

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 11/11/13
Supersedes Date: 07/09/09

Document Group: 21-0053-5

ID Number(s):

70-2010-5771-1, 70-2010-5772-9, 70-2010-7709-9, 70-2010-9606-5

This product is a kit or a multipart product which consists of multiple, independently packaged components. An SDS for each of these components is included. Please do not separate the component SDSs from this cover page. The document numbers of the SDSs for components of this product are:

21-0049-3, 21-0047-7

Revision Changes:

Kit: Component heading paragraph information was modified.
Kit: ID Number(s) information was modified.
Section 1: Manufacturer name information was added.
Section 16: Disclaimer (first paragraph) information was added.
Section 16: Disclaimer (second paragraph) information was added.
Section 16: Web address information was added.
Section 1: Address information was added.
Copyright information was added.
Company logo information was added.
Telephone header information was added.
Company Telephone information was added.

Section 1: Emergency phone information information was added.
Company Logo information was deleted.
Copyright information was deleted.
Kit: Manufacturer's name information was deleted.
Kit: Emergency phone information information was deleted.
Kit: Disclaimer (first paragraph) information was deleted.
Kit: Disclaimer (second paragraph) information was deleted.
Kit: Address line 1 information was deleted.
Kit: Address line 2 information was deleted.

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ ESPE™ VITREBOND™ PLUS LINER LIQUID B
MANUFACTURER: 3M
DIVISION: 3M ESPE Dental Products

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 04/22/09
Supersedes Date: 12/13/06

Document Group: 21-0047-7

Product Use:

Intended Use: Dental product
Limitations on Use: For use only by dental professionals
Specific Use: Dental liner/base

SECTION 2: INGREDIENTS

| <u>Ingredient</u> | <u>C.A.S. No.</u> | <u>% by Wt</u> |
|-----------------------------------------|-------------------|----------------|
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | 25948-33-8 | 40 - 50 |
| WATER | 7732-18-5 | 30 - 40 |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | 868-77-9 | 15 - 25 |

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Liquid

Odor, Color, Grade: Slight acrylate odor, yellow

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: May cause allergic skin reaction. This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Inhalation:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: No need for first aid is anticipated.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature

Flash Point

Flammable Limits - LEL

Flammable Limits - UEL

Not Applicable

> 214 °F [Test Method: Closed Cup]

Not Applicable

Not Applicable

5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Cover, but do not seal for 48 hours. Seal the container. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Avoid eye contact. Avoid skin contact. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Wash hands after handling and before eating.

7.2 STORAGE

Store out of direct sunlight. Keep container in well-ventilated area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in a well-ventilated area.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields.

8.2.2 Skin Protection

Avoid skin contact. See Section 7.1 for additional information on skin protection.

8.2.3 Respiratory Protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

8.2.4 Prevention of Swallowing

Do not ingest. Wash hands after handling and before eating.

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------------|------------------------------------------------------|
| Specific Physical Form: | Liquid |
| Odor, Color, Grade: | Slight acrylate odor, yellow |
| General Physical Form: | Liquid |
| Autoignition temperature | <i>Not Applicable</i> |
| Flash Point | > 214 °F [Test Method: Closed Cup] |
| Flammable Limits - LEL | <i>Not Applicable</i> |
| Flammable Limits - UEL | <i>Not Applicable</i> |
| Boiling point | <i>No Data Available</i> |
| Density | 1.14 g/ml |
| Vapor Density | <i>No Data Available</i> |
| Vapor Pressure | <=27 psia [@ 131.0000000000 °F] [Details: MITS data] |
| Specific Gravity | 1.14 [Ref Std: WATER=1] |
| pH | 2.5 |
| Melting point | <i>Not Applicable</i> |
| Solubility in Water | Complete |
| Evaporation rate | <i>No Data Available</i> |
| Volatile Organic Compounds | <i>Not Applicable</i> |
| Percent volatile | <i>Not Applicable</i> |
| VOC Less H2O & Exempt Solvents | <i>Not Applicable</i> |
| Viscosity | 200 - 300 centistoke |

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Heat

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Condition

Carbon monoxide
Carbon dioxide

During Combustion
During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of completely cured (or polymerized) wastes in a sanitary landfill. As a disposal alternative, incinerate uncured product in an industrial or commercial incinerator. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

LE-F100-0224-3, LE-F100-0224-4, LE-F100-0684-9

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 Flammability: 1 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:

Section 1: Product name was modified.

Section 1: Product use information was modified.

Section 16: NFPA hazard classification for flammability was modified.

Copyright was modified.

Section 3: Potential effects from skin contact information was modified.

Section 3: Potential effects from inhalation information was modified.

Section 5: Unusual fire and explosion hazard information was modified.

Section 7: Handling information was modified.

Page Heading: Product name was modified.

Section 5: Flash point information was modified.

Sections 3 and 9: Odor, color, grade information was modified.

Section 9: Specific gravity information was modified.

Section 9: Flash point information was modified.
 Section 8: Other skin protection comment was added.
 Section 3: Immediate other hazard(s) was added.
 Sections 3 and 9: Specific physical form information was added.
 Sections 3 and 9: Specific physical form heading was added.
 Section 4: First aid for inhalation - none - was added.
 Section 14: ID Number(s) Template 1 was added.
 Section 2: Ingredient table was added.
 Section 8: Exposure guidelines information - none - was added.
 Section 16: HMIS hazard classification heading was deleted.
 Section 16: HMIS hazard classification for health was deleted.
 Section 16: HMIS hazard classification for flammability was deleted.
 Section 16: HMIS hazard classification for reactivity was deleted.
 Section 16: HMIS hazard classification for protection was deleted.
 Section 4: First aid for inhalation - termination of exposure - was deleted.
 Section 4: First aid for inhalation - medical assistance - was deleted.
 Section 16: HMIS explanation was deleted.

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 21-0053-5 | Version Number: | 3.01 |
| Issue Date: | 09/05/19 | Supersedes Date: | 02/26/15 |

Product identifier

3M™ ESPE™ VITREBOND PLUS LINER A/B KIT

ID Number(s):

70-2010-5771-1, 70-2010-5772-9, 70-2010-7709-9, 70-2010-9606-5, 70-2014-0922-7, 70-2014-0924-3

7000054373, 7000054372

Recommended use

Dental Product, Dental liner/base

Restrictions on use

For use only by dental professionals

Supplier's details

| | |
|----------------------|------------------------------|
| MANUFACTURER: | 3M |
| DIVISION: | Oral Care Solutions Division |

| | |
|-------------------|-----------------------------------------|
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

21-0047-7, 21-0049-3

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Document Group: 21-0047-7
Issue Date: 10/14/19

Version Number: 7.02
Supersedes Date: 01/22/18

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ VITREBOND™ PLUS LINER LIQUID B

Product Identification Numbers

| ID Number | UPC | ID Number | UPC |
|----------------|-----|----------------|-----|
| LE-F100-0224-3 | | LE-F100-0224-4 | |
| LE-F100-0684-9 | | | |

1.2. Recommended use and restrictions on use

Recommended use

Dental product, Liner/base

Restrictions on use

For use only by dental professionals

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Oral Care Solutions Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1.

Carcinogenicity: Category 2.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark | Health Hazard |

Pictograms**Hazard Statements**

Causes eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

Precautionary Statements**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|-----------------------------------------|-------------------|------------------------|
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | 25948-33-8 | 40 - 50 Trade Secret * |
| WATER | 7732-18-5 | 30 - 40 Trade Secret * |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | 868-77-9 | 15 - 25 Trade Secret * |
| ETHYL ACETATE | 141-78-6 | < 5 Trade Secret * |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | 58109-40-3 | < 1 Trade Secret * |
| TETRAHYDROFURAN (THF) | 109-99-9 | < 0.2 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade

secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Do not get in eyes. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-----------------------|-------------------|---------------|-------------------------|------------------------------------|
| TETRAHYDROFURAN (THF) | 109-99-9 | ACGIH | TWA:50 ppm;STEL:100 ppm | A3: Confirmed animal carcin., SKIN |
| TETRAHYDROFURAN (THF) | 109-99-9 | OSHA | TWA:590 mg/m3(200 ppm) | |
| ETHYL ACETATE | 141-78-6 | ACGIH | TWA:400 ppm | |
| ETHYL ACETATE | 141-78-6 | OSHA | TWA:1400 mg/m3(400 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls**8.2.1. Engineering controls**

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance****Physical state**

Liquid

Color

Yellow

Specific Physical Form:

Liquid

Odor

Slight Acrylate

Odor threshold*No Data Available***pH**

2.5

Melting point*Not Applicable***Boiling Point***No Data Available***Flash Point**

> 214 °F [Test Method: Closed Cup]

Evaporation rate*No Data Available***Flammability (solid, gas)**

Not Applicable

Flammable Limits(LEL)*Not Applicable***Flammable Limits(UEL)***Not Applicable***Vapor Pressure**

<=27 psia [@ 131.0000000000 °F] [Details: MITS data]

Vapor Density*No Data Available***Density**

1.14 g/ml

Specific Gravity

1.14 [Ref Std: WATER=1]

Solubility in Water

Complete

Solubility- non-water*No Data Available***Partition coefficient: n-octanol/ water***Not Applicable***Autoignition temperature***Not Applicable***Decomposition temperature***No Data Available***Viscosity**

200 - 300 centistoke

Volatile Organic Compounds*Not Applicable***Percent volatile***Not Applicable***VOC Less H2O & Exempt Solvents***Not Applicable***SECTION 10: Stability and reactivity****10.1. Reactivity**

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products**Substance**

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure. The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

11.1. Information on Toxicological effects**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

| Ingredient | CAS No. | Class Description | Regulation |
|-----------------------|----------------|-------------------------------|---------------------------------------------|
| TETRAHYDROFURAN (THF) | 109-99-9 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or

the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|-----------------------------------------|----------------------------|------------------------|-------------------------------------------------------|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Ingestion | Rat | LD50 > 5,000 mg/kg |
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Dermal | similar health hazards | LD50 estimated to be > 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Rat | LD50 5,564 mg/kg |
| ETHYL ACETATE | Dermal | Rabbit | LD50 > 18,000 mg/kg |
| ETHYL ACETATE | Inhalation-Vapor (4 hours) | Rat | LC50 70.5 mg/l |
| ETHYL ACETATE | Ingestion | Rat | LD50 5,620 mg/kg |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Ingestion | Rat | LD50 32 mg/kg |
| TETRAHYDROFURAN (THF) | Dermal | Rat | LD50 > 2,000 mg/kg |
| TETRAHYDROFURAN (THF) | Inhalation-Vapor (4 hours) | Rat | LC50 54 mg/l |
| TETRAHYDROFURAN (THF) | Ingestion | Rat | LD50 3,180 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--------------------------------------|---------|---------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Minimal irritation |
| ETHYL ACETATE | Rabbit | Minimal irritation |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Rabbit | No significant irritation |
| TETRAHYDROFURAN (THF) | Rabbit | Minimal irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--------------------------------------|---------|-------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Moderate irritant |
| ETHYL ACETATE | Rabbit | Mild irritant |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Rabbit | Mild irritant |
| TETRAHYDROFURAN (THF) | Rabbit | Corrosive |

Skin Sensitization

| Name | Species | Value |
|------------------------------------|------------------|----------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Human and animal | Sensitizing |
| ETHYL ACETATE | Guinea pig | Not classified |
| TETRAHYDROFURAN (THF) | Human and animal | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|------------------------------------|----------|------------------------------------------------------------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In vivo | Not mutagenic |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |

| | | |
|--------------------------------------|----------|------------------------------------------------------------------------------|
| ETHYL ACETATE | In Vitro | Not mutagenic |
| ETHYL ACETATE | In vivo | Not mutagenic |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| TETRAHYDROFURAN (THF) | In Vitro | Not mutagenic |
| TETRAHYDROFURAN (THF) | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-----------------------|------------|-------------------------|--------------|
| TETRAHYDROFURAN (THF) | Inhalation | Multiple animal species | Carcinogenic |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------------------|------------|----------------------------------------|---------|-----------------------|--------------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 49 days |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| TETRAHYDROFURAN (THF) | Ingestion | Not classified for female reproduction | Rat | NOAEL 782 mg/kg/day | 2 generation |
| TETRAHYDROFURAN (THF) | Ingestion | Not classified for male reproduction | Rat | NOAEL 782 mg/kg/day | 2 generation |
| TETRAHYDROFURAN (THF) | Ingestion | Not classified for development | Rat | NOAEL 305 mg/kg/day | 2 generation |
| TETRAHYDROFURAN (THF) | Inhalation | Not classified for development | Mouse | NOAEL 1.8 mg/l | during gestation |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------------------------------------|------------|-----------------------------------|------------------------------------------------------------------------------|---------------|----------------------|-------------------|
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Ingestion | nervous system | Not classified | Rat | NOAEL 5,000 mg/kg | |
| ETHYL ACETATE | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| ETHYL ACETATE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| ETHYL ACETATE | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Inhalation | respiratory irritation | Not classified | Not available | Irritation Equivocal | |
| TETRAHYDROFURAN (THF) | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| TETRAHYDROFURAN (THF) | Inhalation | respiratory irritation | May cause respiratory irritation | | NOAEL Not available | |
| TETRAHYDROFURAN (THF) | Inhalation | respiratory system | Not classified | Rabbit | NOAEL 2.9 mg/l | 4 hours |
| TETRAHYDROFURAN (THF) | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Rat | NOAEL 180 mg/kg | not applicable |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure |
|------|-------|-----------------|-------|---------|-------------|----------|
|------|-------|-----------------|-------|---------|-------------|----------|

| | | | | | | Duration |
|-----------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------|-----------------------|-----------------|
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Ingestion | endocrine system hematopoietic system liver | Not classified | Rat | NOAEL 200 mg/kg/day | 28 days |
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Ingestion | heart bone, teeth, nails, and/or hair immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 2,000 mg/kg/day | 28 days |
| ETHYL ACETATE | Inhalation | endocrine system liver nervous system | Not classified | Rat | NOAEL 0.043 mg/l | 90 days |
| ETHYL ACETATE | Inhalation | hematopoietic system | Not classified | Rabbit | LOAEL 16 mg/l | 40 days |
| ETHYL ACETATE | Ingestion | hematopoietic system liver kidney and/or bladder | Not classified | Rat | NOAEL 3,600 mg/kg/day | 90 days |
| TETRAHYDROFURAN (THF) | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 0.6 mg/l | 12 weeks |
| TETRAHYDROFURAN (THF) | Inhalation | respiratory system | Not classified | Rat | NOAEL 2.9 mg/l | 12 weeks |
| TETRAHYDROFURAN (THF) | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 0.6 mg/l | 105 weeks |
| TETRAHYDROFURAN (THF) | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 2 weeks |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Not applicable

Health Hazards

Carcinogenicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information**NFPA Hazard Classification**

Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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Issue Date: 10/14/19

Version Number: 7.02
Supersedes Date: 01/22/18

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Safety Data Sheet

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Document Group: 21-0049-3

Issue Date: 01/19/18

Version Number: 7.01

Supersedes Date: 02/25/16

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ VITREBOND™ PLUS LINER PASTE A

Product Identification Numbers

ID Number UPC

LE-F100-0224-5

LE-F100-0688-2

ID Number

LE-F100-0224-6

UPC

1.2. Recommended use and restrictions on use

Recommended use

Dental product, Liner/base

Restrictions on use

For use only by dental professionals

1.3. Supplier's details

MANUFACTURER: 3M

DIVISION: Oral Care Solutions Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA

Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1B.

2.2. Label elements

Signal word

Warning**Symbols**

Exclamation mark |

Pictograms**Hazard Statements**

Causes eye irritation.

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Wear protective gloves.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---------------------------------------------------------|------------|------------------------|
| SILANE-TREATED GLASS | None | 70 - 80 Trade Secret * |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | 868-77-9 | 10 - 20 Trade Secret * |
| WATER | 7732-18-5 | 1 - 10 Trade Secret * |
| SILANE TREATED SILICA | 68909-20-6 | < 2 Trade Secret * |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | 1565-94-2 | < 2 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash

thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-------------------|------------|--------|-------------------------------------------------------------------------------|---------------------|
| SILICA, AMORPHOUS | 68909-20-6 | OSHA | TWA concentration:0.8 mg/m ³ ;TWA:20 millions of particles/cu. ft. | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-------------------------|------------------------------------------|
| General Physical Form: | Solid |
| Specific Physical Form: | Paste |
| Odor, Color, Grade: | Characteristic odor, Off-white to Yellow |
| Odor threshold: | No Data Available |
| pH | Not Applicable |
| Melting point | No Data Available |
| Boiling Point | Not Applicable |
| Flash Point | Not Applicable |

| | |
|-----------------------------------------|------------------------------------------------|
| Evaporation rate | Not Applicable |
| Flammability (solid, gas) | Not Classified |
| Flammable Limits(LEL) | Not Applicable |
| Flammable Limits(UEL) | Not Applicable |
| Vapor Pressure | Not Applicable |
| Vapor Density | Not Applicable |
| Density | 1.9 g/cm3 |
| Specific Gravity | 1.9 [Ref Std: WATER=1] |
| Solubility in Water | Negligible |
| Solubility- non-water | No Data Available |
| Partition coefficient: n-octanol/ water | Not Applicable |
| Autoignition temperature | Not Applicable |
| Decomposition temperature | No Data Available |
| Viscosity | >=300,000 centistoke [Test Method: Brookfield] |
| Volatile Organic Compounds | Not Applicable |
| Percent volatile | Negligible |
| VOC Less H2O & Exempt Solvents | Not Applicable |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
|------------------|------------------|

| | |
|-------------|--|
| None known. | |
|-------------|--|

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|------------------------------------------------------|--------------------------------|------------------------|-------------------------------------------------------|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| SILANE-TREATED GLASS | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| SILANE-TREATED GLASS | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Rat | LD50 5,564 mg/kg |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Dermal | Professional judgement | LD50 estimated to be 2,000 - 5,000 mg/kg |
| SILANE TREATED SILICA | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| SILANE TREATED SILICA | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| SILANE TREATED SILICA | Ingestion | Rat | LD50 > 5,110 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|------------------------------------------------------|------------------------|---------------------------|
| SILANE-TREATED GLASS | Professional judgement | No significant irritation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Minimal irritation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Minimal irritation |
| SILANE TREATED SILICA | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|------------------------------------------------------|------------------------|---------------------------|
| SILANE-TREATED GLASS | Professional judgement | No significant irritation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Moderate irritant |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Moderate irritant |
| SILANE TREATED SILICA | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|------------------------------------------------------|------------------|----------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Human and animal | Sensitizing |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Guinea pig | Sensitizing |
| SILANE TREATED SILICA | Human and animal | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|------------------------------------------------------|----------|------------------------------------------------------------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In vivo | Not mutagenic |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| SILANE TREATED SILICA | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-----------------------|---------------|---------|------------------------------------------------------------------------------|
| SILANE TREATED SILICA | Not Specified | Mouse | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------------------------------------|-----------|----------------------------------------|---------|-----------------------|--------------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 49 days |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for female reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for male reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for development | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during |

| | | | | | |
|-----------------------|-----------|----------------------------------------|-----|-----------------------|---------------------------|
| SILANE TREATED SILICA | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | gestation 1 generation |
| SILANE TREATED SILICA | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| SILANE TREATED SILICA | Ingestion | Not classified for development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------------------------------------|------------|-------------------------------------------------------------------|----------------|---------|---------------------|------------------------------|
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | endocrine system liver nervous system kidney and/or bladder | Not classified | Mouse | NOAEL 0.8 mg/kg/day | premating & during gestation |
| SILANE TREATED SILICA | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group: 21-0049-3

Version Number:

7.01

Issue Date: 01/19/18

Supersedes Date:

02/25/16

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3M USA SDSs are available at www.3M.com



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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 21-0053-5 | Version Number: | 3.01 |
| Issue Date: | 09/05/19 | Supersedes Date: | 02/26/15 |

Product identifier

3M™ ESPE™ VITREBOND PLUS LINER A/B KIT

ID Number(s):

70-2010-5771-1, 70-2010-5772-9, 70-2010-7709-9, 70-2010-9606-5, 70-2014-0922-7, 70-2014-0924-3

7000054373, 7000054372

Recommended use

Dental Product, Dental liner/base

Restrictions on use

For use only by dental professionals

Supplier's details

| | |
|----------------------|------------------------------|
| MANUFACTURER: | 3M |
| DIVISION: | Oral Care Solutions Division |

| | |
|-------------------|-----------------------------------------|
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

21-0047-7, 21-0049-3

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Document Group: 21-0047-7
Issue Date: 10/14/19

Version Number: 7.02
Supersedes Date: 01/22/18

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ VITREBOND™ PLUS LINER LIQUID B

Product Identification Numbers

| ID Number | UPC | ID Number | UPC |
|----------------|-----|----------------|-----|
| LE-F100-0224-3 | | LE-F100-0224-4 | |
| LE-F100-0684-9 | | | |

1.2. Recommended use and restrictions on use

Recommended use

Dental product, Liner/base

Restrictions on use

For use only by dental professionals

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Oral Care Solutions Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1.

Carcinogenicity: Category 2.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark | Health Hazard |

Pictograms**Hazard Statements**

Causes eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

Precautionary Statements**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|-----------------------------------------|-------------------|------------------------|
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | 25948-33-8 | 40 - 50 Trade Secret * |
| WATER | 7732-18-5 | 30 - 40 Trade Secret * |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | 868-77-9 | 15 - 25 Trade Secret * |
| ETHYL ACETATE | 141-78-6 | < 5 Trade Secret * |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | 58109-40-3 | < 1 Trade Secret * |
| TETRAHYDROFURAN (THF) | 109-99-9 | < 0.2 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade

secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Do not get in eyes. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-----------------------|-------------------|---------------|-------------------------|------------------------------------|
| TETRAHYDROFURAN (THF) | 109-99-9 | ACGIH | TWA:50 ppm;STEL:100 ppm | A3: Confirmed animal carcin., SKIN |
| TETRAHYDROFURAN (THF) | 109-99-9 | OSHA | TWA:590 mg/m3(200 ppm) | |
| ETHYL ACETATE | 141-78-6 | ACGIH | TWA:400 ppm | |
| ETHYL ACETATE | 141-78-6 | OSHA | TWA:1400 mg/m3(400 ppm) | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls**8.2.1. Engineering controls**

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance****Physical state**

Liquid

Color

Yellow

Specific Physical Form:

Liquid

Odor

Slight Acrylate

Odor threshold*No Data Available***pH**

2.5

Melting point*Not Applicable***Boiling Point***No Data Available***Flash Point**

> 214 °F [Test Method: Closed Cup]

Evaporation rate*No Data Available***Flammability (solid, gas)**

Not Applicable

Flammable Limits(LEL)*Not Applicable***Flammable Limits(UEL)***Not Applicable***Vapor Pressure**

<=27 psia [@ 131.0000000000 °F] [Details: MITS data]

Vapor Density*No Data Available***Density**

1.14 g/ml

Specific Gravity

1.14 [Ref Std: WATER=1]

Solubility in Water

Complete

Solubility- non-water*No Data Available***Partition coefficient: n-octanol/ water***Not Applicable***Autoignition temperature***Not Applicable***Decomposition temperature***No Data Available***Viscosity**

200 - 300 centistoke

Volatile Organic Compounds*Not Applicable***Percent volatile***Not Applicable***VOC Less H2O & Exempt Solvents***Not Applicable***SECTION 10: Stability and reactivity****10.1. Reactivity**

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products**Substance**

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure. The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

11.1. Information on Toxicological effects**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

| <u>Ingredient</u> | <u>CAS No.</u> | <u>Class Description</u> | <u>Regulation</u> |
|--------------------------|-----------------------|---------------------------------|---------------------------------------------|
| TETRAHYDROFURAN (THF) | 109-99-9 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or

the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|-----------------------------------------|----------------------------|------------------------|-------------------------------------------------------|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Ingestion | Rat | LD50 > 5,000 mg/kg |
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Dermal | similar health hazards | LD50 estimated to be > 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Rat | LD50 5,564 mg/kg |
| ETHYL ACETATE | Dermal | Rabbit | LD50 > 18,000 mg/kg |
| ETHYL ACETATE | Inhalation-Vapor (4 hours) | Rat | LC50 70.5 mg/l |
| ETHYL ACETATE | Ingestion | Rat | LD50 5,620 mg/kg |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Ingestion | Rat | LD50 32 mg/kg |
| TETRAHYDROFURAN (THF) | Dermal | Rat | LD50 > 2,000 mg/kg |
| TETRAHYDROFURAN (THF) | Inhalation-Vapor (4 hours) | Rat | LC50 54 mg/l |
| TETRAHYDROFURAN (THF) | Ingestion | Rat | LD50 3,180 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--------------------------------------|---------|---------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Minimal irritation |
| ETHYL ACETATE | Rabbit | Minimal irritation |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Rabbit | No significant irritation |
| TETRAHYDROFURAN (THF) | Rabbit | Minimal irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--------------------------------------|---------|-------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Moderate irritant |
| ETHYL ACETATE | Rabbit | Mild irritant |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Rabbit | Mild irritant |
| TETRAHYDROFURAN (THF) | Rabbit | Corrosive |

Skin Sensitization

| Name | Species | Value |
|------------------------------------|------------------|----------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Human and animal | Sensitizing |
| ETHYL ACETATE | Guinea pig | Not classified |
| TETRAHYDROFURAN (THF) | Human and animal | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|------------------------------------|----------|------------------------------------------------------------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In vivo | Not mutagenic |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |

| | | |
|--------------------------------------|----------|------------------------------------------------------------------------------|
| ETHYL ACETATE | In Vitro | Not mutagenic |
| ETHYL ACETATE | In vivo | Not mutagenic |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| TETRAHYDROFURAN (THF) | In Vitro | Not mutagenic |
| TETRAHYDROFURAN (THF) | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-----------------------|------------|-------------------------|--------------|
| TETRAHYDROFURAN (THF) | Inhalation | Multiple animal species | Carcinogenic |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------------------|------------|----------------------------------------|---------|-----------------------|--------------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 49 days |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| TETRAHYDROFURAN (THF) | Ingestion | Not classified for female reproduction | Rat | NOAEL 782 mg/kg/day | 2 generation |
| TETRAHYDROFURAN (THF) | Ingestion | Not classified for male reproduction | Rat | NOAEL 782 mg/kg/day | 2 generation |
| TETRAHYDROFURAN (THF) | Ingestion | Not classified for development | Rat | NOAEL 305 mg/kg/day | 2 generation |
| TETRAHYDROFURAN (THF) | Inhalation | Not classified for development | Mouse | NOAEL 1.8 mg/l | during gestation |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-----------------------------------------|------------|-----------------------------------|------------------------------------------------------------------------------|---------------|----------------------|-------------------|
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Ingestion | nervous system | Not classified | Rat | NOAEL 5,000 mg/kg | |
| ETHYL ACETATE | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| ETHYL ACETATE | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | |
| ETHYL ACETATE | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| DIPHENYLIODONIUM HEXAFLUOROPHOSPHATE | Inhalation | respiratory irritation | Not classified | Not available | Irritation Equivocal | |
| TETRAHYDROFURAN (THF) | Inhalation | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | |
| TETRAHYDROFURAN (THF) | Inhalation | respiratory irritation | May cause respiratory irritation | | NOAEL Not available | |
| TETRAHYDROFURAN (THF) | Inhalation | respiratory system | Not classified | Rabbit | NOAEL 2.9 mg/l | 4 hours |
| TETRAHYDROFURAN (THF) | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Rat | NOAEL 180 mg/kg | not applicable |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure |
|------|-------|-----------------|-------|---------|-------------|----------|
|------|-------|-----------------|-------|---------|-------------|----------|

| | | | | | | Duration |
|-----------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------|-----------------------|-----------|
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Ingestion | endocrine system hematopoietic system liver | Not classified | Rat | NOAEL 200 mg/kg/day | 28 days |
| COPOLYMER OF ACRYLIC AND ITACONIC ACIDS | Ingestion | heart bone, teeth, nails, and/or hair immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 2,000 mg/kg/day | 28 days |
| ETHYL ACETATE | Inhalation | endocrine system liver nervous system | Not classified | Rat | NOAEL 0.043 mg/l | 90 days |
| ETHYL ACETATE | Inhalation | hematopoietic system | Not classified | Rabbit | LOAEL 16 mg/l | 40 days |
| ETHYL ACETATE | Ingestion | hematopoietic system liver kidney and/or bladder | Not classified | Rat | NOAEL 3,600 mg/kg/day | 90 days |
| TETRAHYDROFURAN (THF) | Inhalation | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 0.6 mg/l | 12 weeks |
| TETRAHYDROFURAN (THF) | Inhalation | respiratory system | Not classified | Rat | NOAEL 2.9 mg/l | 12 weeks |
| TETRAHYDROFURAN (THF) | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 0.6 mg/l | 105 weeks |
| TETRAHYDROFURAN (THF) | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | 2 weeks |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Not applicable

Health Hazards

Carcinogenicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information**NFPA Hazard Classification**

Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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Supersedes Date: 01/22/18

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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ VITREBOND™ PLUS LINER PASTE A

Product Identification Numbers

ID Number UPC

LE-F100-0224-5

LE-F100-0688-2

ID Number

LE-F100-0224-6

UPC

1.2. Recommended use and restrictions on use

Recommended use

Dental product, Liner/base

Restrictions on use

For use only by dental professionals

1.3. Supplier's details

MANUFACTURER: 3M

DIVISION: Oral Care Solutions Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA

Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1B.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms**Hazard Statements**

Causes eye irritation.

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Wear protective gloves.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---------------------------------------------------------|------------|------------------------|
| SILANE-TREATED GLASS | None | 70 - 80 Trade Secret * |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | 868-77-9 | 10 - 20 Trade Secret * |
| WATER | 7732-18-5 | 1 - 10 Trade Secret * |
| SILANE TREATED SILICA | 68909-20-6 | < 2 Trade Secret * |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | 1565-94-2 | < 2 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash

thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-------------------|------------|--------|-------------------------------------------------------------------------------|---------------------|
| SILICA, AMORPHOUS | 68909-20-6 | OSHA | TWA concentration:0.8 mg/m ³ ;TWA:20 millions of particles/cu. ft. | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-------------------------|------------------------------------------|
| General Physical Form: | Solid |
| Specific Physical Form: | Paste |
| Odor, Color, Grade: | Characteristic odor, Off-white to Yellow |
| Odor threshold: | No Data Available |
| pH | Not Applicable |
| Melting point | No Data Available |
| Boiling Point | Not Applicable |
| Flash Point | Not Applicable |

| | |
|---------------------------------------------|-----------------------------------------------|
| Evaporation rate | <i>Not Applicable</i> |
| Flammability (solid, gas) | Not Classified |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | <i>Not Applicable</i> |
| Vapor Density | <i>Not Applicable</i> |
| Density | 1.9 g/cm ³ |
| Specific Gravity | 1.9 [Ref Std: WATER=1] |
| Solubility in Water | Negligible |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>Not Applicable</i> |
| Autoignition temperature | <i>Not Applicable</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | ≥300,000 centistoke [Test Method: Brookfield] |
| Volatile Organic Compounds | <i>Not Applicable</i> |
| Percent volatile | Negligible |
| VOC Less H ₂ O & Exempt Solvents | <i>Not Applicable</i> |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Substance

Condition

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|------------------------------------------------------|--------------------------------|------------------------|-------------------------------------------------------|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE 2,000 - 5,000 mg/kg |
| SILANE-TREATED GLASS | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| SILANE-TREATED GLASS | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Rat | LD50 5,564 mg/kg |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Dermal | Professional judgement | LD50 estimated to be 2,000 - 5,000 mg/kg |
| SILANE TREATED SILICA | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| SILANE TREATED SILICA | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| SILANE TREATED SILICA | Ingestion | Rat | LD50 > 5,110 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|------------------------------------------------------|------------------------|---------------------------|
| SILANE-TREATED GLASS | Professional judgement | No significant irritation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Minimal irritation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Minimal irritation |
| SILANE TREATED SILICA | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|------------------------------------------------------|------------------------|---------------------------|
| SILANE-TREATED GLASS | Professional judgement | No significant irritation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Moderate irritant |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Not available | Moderate irritant |
| SILANE TREATED SILICA | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|------------------------------------------------------|------------------|----------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Human and animal | Sensitizing |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Guinea pig | Sensitizing |
| SILANE TREATED SILICA | Human and animal | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|------------------------------------------------------|----------|------------------------------------------------------------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In vivo | Not mutagenic |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| SILANE TREATED SILICA | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-----------------------|---------------|---------|------------------------------------------------------------------------------|
| SILANE TREATED SILICA | Not Specified | Mouse | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------------------------------------|-----------|----------------------------------------|---------|-----------------------|--------------------------------|
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 49 days |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for female reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for male reproduction | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during gestation |
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | Not classified for development | Mouse | NOAEL 0.8 mg/kg/day | prematuring & during |

| | | | | | |
|-----------------------|-----------|----------------------------------------|-----|-----------------------|---------------------------|
| SILANE TREATED SILICA | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | gestation 1 generation |
| SILANE TREATED SILICA | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| SILANE TREATED SILICA | Ingestion | Not classified for development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------------------------------------|------------|-------------------------------------------------------------------|----------------|---------|---------------------|------------------------------|
| BISPHENOL A DIGLYCIDYL ETHER DIMETHACRYLATE (BISGMA) | Ingestion | endocrine system liver nervous system kidney and/or bladder | Not classified | Mouse | NOAEL 0.8 mg/kg/day | premating & during gestation |
| SILANE TREATED SILICA | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information**NFPA Hazard Classification**

Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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